Bear Creek (1015) Use Attainability Analysis



Boone County Regional Sewer District 1314 North 7th Street Columbia, MO 65201-3902

Prepared by
Barr Engineering Company
July 2005

Bear Creek (1015)

Use Attainability Analysis

Boone County Regional Sewer District 1314 North 7th Street Columbia, MO 65201-3902

July 2005



Barr Engineering Company 3236 Emerald Lane Jefferson City, MO 65109 Phone: (573) 636-5331 Fax: (573) 636-5323

JUL 1 3 2005

Field Data Sheets for Recreational Use Stream Surveys

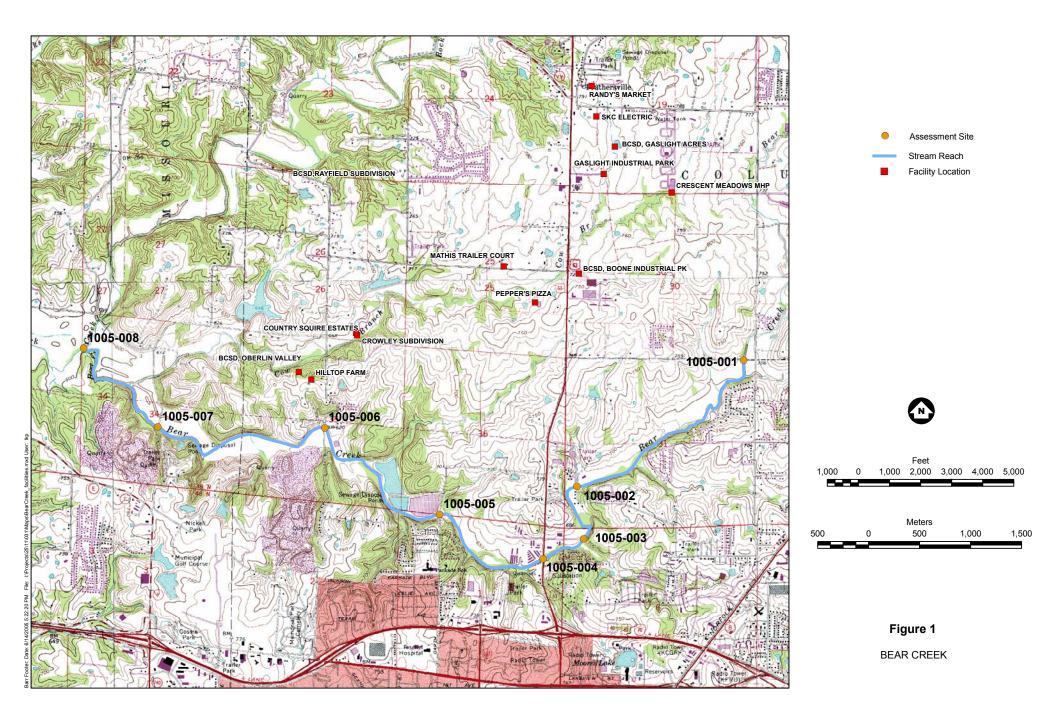
WATER PROTECTION PROGRAM

Data Sheet A - Water Body Identification

Water Body Name (from USGS 7.5' quad): Bear Creek
8-digit HUC: 10300102
Missouri WBID #: 1015
County: Boone
Upstream Legal Description: Bear at North line Section 31, T49N, R12W
Downstream Legal Description: Mouth located in NE 1/4 Section 33, T49N, R13W
Upstream Coordinates: UTM (Z15N) 560336E; 4315979N
Downstream Coordinates: UTM (Z15N) 553845E; 4316113N
Discharger Facility Name(s): Crowley Sudivision, Permit # MO0082147 BCSD, Gaslight Acres, Permit # MO0086606 Gaslight Industrial Park, Permit # MO0089532 BCSD, Boone Industrial Park, Permit # MO0092886 Crescent Meadows MHP, Permit # MO0095974 Country Squire Estates, Permit # MO0096580 Mathis Trailer Court, Permit # MO0117323 Hilltop Farm, Permit # MO0118273 Pepper's Pizza, Permit # MO0121215 Randy's Market, Permit # MO0124486 SKC Electric, Permit # MO0124494
Discharger Permit Number(s): See Above
Number of Sites Evaluated: 8
Name of Surveyor and Telephone Number: Alan Fandrey (573-638-5013)
Organization: Barr Engineering Company
Position: Civil Engineer

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed:	(Man /	Nauchy	Date:	6/14/05



Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 1015-	-001		Site Location Description: Bear Creek at upstream end classified reach at road crossing at North line Section 31, T49N, R12W; BID 37				
Site GPS Coordinates: 5	660336E; 4315979N	1	- Boone Cou		sing at North line Section 3	31, 149N, R12W; BID 37	
Date & Time: 5/28/05 - 1	12:30 p.m.		Facility Nam	Facility Name: See Table 2			
Personnel: Tim J. Fandre	ey / Alan J. Fandrey		Permit Numb	ber: S	See Table 2		
Current Weather Condition	ons: Clear - 70s		Weather Cor	nditio	ons for Past 7 days: Last ra	in on May 22	
Photo Ids: Upstream: 10	005-001US Dow	nstream: 10	005-001DS C	Other:			
	<u> </u>						
Uses Observed*:	T					T	
Swimming	☐ Skin diving		CUBA diving		☐ Tubing	☐ Water skiing	
☐ Wind surfing	☐ Kayaking	□В	oating		□ Wading	Rafting	
☐ Hunting	☐ Trapping	☐ Fi	shing		None of the above	Other:	
Describe: (merade name)	or or marriadans rec	reating, rreq	dency of use, pi	010 0	locumentation of evidence	or recreational uses, etc.)	
~							
Surrounding Condition	s*: (Mark all that p	promote or in	npede recreation	nal us	es. Attach photos of evider	nce or unusual	
tems of interest.)	T					Т	
☐ City/county parks	☐ Playgrounds	☐ MDC c	onservation land	ls	☐ Urban areas	Campgrounds	
☐ Boating accesses	☐ State parks	☐ Nationa	l forests		☐ Nature trails	⊠ Stairs/walkway	
☐ No trespass sign	☐ Fence	☐ Steep sl	opes		Other:		
Evidence of Human Uso	e* :						
⊠ Roads	☐ Foot paths/pri	nts	Dock/platform		☐ Livestock Watering	RV / ATV Tracks	
☐ Rope swings	☐ Camping Sites		Fire pit/ring		☐ NPDES Discharge	☐ Fishing Tackle	
Other: Graffiti							
·					·		

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Data Sheet B - Site Characterization

Page Two - WBID #<u>1005-001</u>:

Riffle	Width (ft)		Dimensions: Length (ft)	:	Avg. Depth	(ft):	Max. Depth (′ft)·
Run	Width (ft)	:	Length (ft)	:	Avg. Depth	<u>`</u>	Max. Depth (
⊠ Pool	Width (ft)	: 20-30	Length (ft)	: 300	Avg. Depth		Max. Depth (
⊠ Flow	Present?	⊠ Yes	□ No			$ft^3/sec)$: < 1		10. 0.5
Downstrea	am View	Physica	l Dimensions	•				
Riffle	Width (ft):		Length (ft)		Avg. Depth	(ft): 0.2	Max. Depth ((ft): 0.3
⊠ Run	Width (ft):	: 15	Length (ft)	: 100	Avg. Depth		Max. Depth (
☐ Pool	Width (ft):		Length (ft)	:	Avg. Depth		Max, Depth (
⊠ Flow	Present?	⊠ Yes	□No		<u>-</u>	t ³ /sec): see abo		
<u>50%</u>	(These value Cobble		add up to 100%. % Gravel	50% \$	Sand	% Silt	% Mud/Clay	% Bedrocl
uatic Vego	etation*:	(note amo	ount of vegetation	n or algal g	growth at the asso	essment site)		
				n or algal <u>ε</u>	growth at the asso	essment site)		
			all that apply.)		growth at the asso	essment site)	Other:	
ter Chara Odor: Color:	ncteristics	s*: (Mark	all that apply.)			None None None None	Other:	
odor: Color: Bottom Dep	oosit:	s*: (Mark] Sewage] Clear] Sludge	all that apply.)		Chemical		Other:	
Odor: Color: Bottom Dep	oosit:	s*: (Mark] Sewage] Clear] Sludge	all that apply.) Musky Green Solids		Chemical Gray Fine sediments	☑ None☑ Milky☑ None	Other:	
Odor: Color: Bottom Dep Surface Dep	oosit:	s*: (Mark] Sewage] Clear] Sludge] Oil ach addit	all that apply.) Musky Green Solids Scum	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Chemical Gray Fine sediments Foam ding informat	None Milky None None None ion from inte	Other: Other: Other:	
Odor: Color: Bottom Dep Surface Dep mments: P is information prehensive u sion on the re	posit: Please attain is not to be inderstanding ecreation us	s*: (Mark] Sewage] Clear] Sludge] Oil ach addit be used soing of water se analysis	all that apply.) Musky Green Solids Scum ional commentational commentations. Constitutions conditions constitutions conditions constitutions conditions constitutions conditions constitutions conditions condi	ats (included)	Chemical Gray Fine sediments Foam ding informat ational use design y, this informations that need furth	None Milky None None None ion from inte	Other: Other: Other: Other: rviews) to this for is to provide a mord to directly influentat effect another us	e ce a
Odor: Color: Bottom Dep Surface Dep mments: P is information prehensive u sion on the re ne undersi asheet is to	oosit: Description Please atta In is not to be Inderstandirecreation us In it is not to be Inderstandirecreation us In it is not to be Inderstandirecreation us In it is not to be In it is not to b	s*: (Mark] Sewage] Clear] Sludge] Oil ach addit be used soing of wate, se analysis reby affineccurate	all that apply.) Musky Green Solids Scum ional commentational commentations. Consistent of the best.	ats (included of a recreation in a recreation	Chemical Gray Fine sediments Foam ding informat ational use design y, this informations that need furth	None Milky None None None ion from inte	Other: Other: Other: rviews) to this for	e ce a e.
Odor: Color: Bottom Dep Surface Dep mments: P is information prehensive u sion on the re ne undersi asheet is to	oosit: Description Please atta In is not to be Inderstandirecreation us In it is not to be Inderstandirecreation us In it is not to be Inderstandirecreation us In it is not to be In it is not to b	s*: (Mark] Sewage] Clear] Sludge] Oil ach addit be used soing of wate, se analysis reby affineccurate	all that apply.) Musky Green Solids Scum ional commentational commentations. Consistent to the besident applications and the besident applications and the besident applications.	ats (included of a recreation in a recreation	Chemical Gray Fine sediments Foam ding informat ational use design y, this informations that need furth knowledge, t	None Milky None None None ion from intentention but rather is not intender analysis or the content of the	Other: Other: Other: Other: rviews) to this for is to provide a mord to directly influentat effect another us	e ce a e.



Photo ID 1005-001US: Upstream (Bear Creek)



Photo ID 1005-001DS: Downstream (Bear Creek)

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 1005-	002		Site Location Description: Bear Creek at road crossing in SW 1/4				
		.	Section 31, T49N, R12W; BID 14 - Boone County				
Site GPS Coordinates: 5	<u> </u>	N .					
Date & Time: 5/26/05 - 1	0 a.m.		Facility Name: See Table 2				
Personnel: Tim J. Fandre	y		Permit Number:	See Table 2			
Current Weather Condition	ons: Partly cloudy -	- 60s	Weather Conditi	ons for Past 7 days: Last ra	in on May 22		
Photo Ids: Upstream: 10	05-002US Dow	nstream: 100	5-002DS Other	·. ·			
	1						
Uses Observed*:				T	1		
☐ Swimming	☐ Skin diving	☐ SCU	JBA diving	☐ Tubing	☐ Water skiing		
☐ Wind surfing	☐ Kayaking	□ Воа	ating	□ Wading	☐ Rafting		
☐ Hunting	☐ Trapping	☐ Fish	ning	☑ None of the above	Other:		
Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)							
Surrounding Conditions tems of interest.)	S*: (Mark all that p	promote or imp	pede recreational u	ses. Attach photos of evide	nce or unusual		
☐ City/county parks	☐ Playgrounds	☐ MDC cor	servation lands	☐ Urban areas	☐ Campgrounds		
☐ Boating accesses	☐ State parks	☐ National	forests	Nature trails ■	☐ Stairs/walkway		
☐ No trespass sign	☐ Fence	Steep slo	pes	Other:	-		
Evidence of Human Use	<u>,</u> *•			'			
⊠ Roads		nts D	ock/platform	☐ Livestock Watering	RV / ATV Tracks		
☐ Rope swings	☐ Camping Sites	☐ Fi	re pit/ring	☐ NPDES Discharge	☐ Fishing Tackle		
Other:							
	·						

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Data Sheet B - Site Characterization

Page Two – WBID #<u>1005-002</u>:

	eam Mor Upstream		sical D	imensions:				
•	Riffle	Width (ft):		Length (ft):	Avg. Depth ((ft):	Max. Depth	(ft):
	Run	Width (ft):	1.0	Length (ft): 5.0	Avg. Depth ((ft): 0.1	Max. Depth	(ft): 0.1
	Pool	Width (ft):		Length (ft):	Avg. Depth ((ft):	Max. Depth	(ft):
	⊠ Flow	Present?	⊠ Yes	□ No	Estimated (ft	³ /sec): 0.5		0.2002
]	Downstre	am View P	Physical	l Dimensions:				
	Riffle	Width (ft):	<u> </u>	Length (ft): 2.0	Avg. Depth ((ft): 0.1	Max. Depth	(ft): 0.15
	Run	Width (ft):		Length (ft):	Avg. Depth ((ft):	Max. Depth	(ft):
	Pool	Width (ft):		Length (ft):	Avg. Depth ((ft):	Max. Depth	(ft):
	⊠ Flow	Present?	⊠ Yes	□No	Estimated (fi	t ³ /sec): 0.5		
Sul		(These value Cobble		add up to 100%.) % Gravel	5% Sand	% Silt	% Mud/Clay	% Bedrock
Ws	oter Char	acteristics	*• (Mark	all that apply.)				
[Odor:		Sewage	☐ Musky	☐ Chemical	⊠ None	Other:	
	Color:	\boxtimes	Clear	Green	Gray	Milky	Other: br	own
	Bottom De	<u> </u>	Sludge	☐ Solids	Fine sediments	None None	Other:	
L	Surface De	posit:	Oil	⊠ Scum	⊠ Foam	☐ None	Other:	
*Th com deci	is information in prehensive is ion on the the understasheet is	on is not to be understanding recreation use signed, her true and a	e used so g of wate e analysis reby aff ccurate	olely for removal of a er conditions. Consequences but may point to confirm to the best of	recreational use design quently, this information additions that need furth	nation but rathe in is not intende her analysis or the	r is to provide a mode to directly influe hat effect another t	ore nce a ase. ed on this UAA
				/	Datas	() / ()	(a) (O)	



Photo ID 1005-002US: Upstream (Bear Creek)



Photo ID 1005-002DS: Downstream (Bear Creek)

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

	Missouri WBID #: 1005-	Site Loc	Site Location Description: Bear Creek in NW 1/4 Section 6, T48N,					
	Site GPS Coordinates: 5		J	R12W;	BID 13 -	Boone County		
	Date & Time: 5/26/05 - 9		•	Facility	Facility Name: See Table 2			
	Personnel: Tim J. Fandre					See Table 2		
	Current Weather Condition	<u> </u>				ons for Past 7 days: Last ra	in on May 22	
					1	•	· · · · · · · · · · · · · · · · · · ·	
	Photo Ids: Upstream: 10	05-003US Dov	vnstreai	m: 1005-003DS	Other:	1005-003O1; 1005-003O	2	
Us	es Observed*:							
	Swimming	☐ Skin diving		SCUBA divin	ıg	☐ Tubing	☐ Water skiing	
	☐ Wind surfing	☐ Kayaking		☐ Boating		Wading	Rafting	
	☐ Hunting	☐ Trapping		☐ Fishing		☑ None of the above	Other:	
	Describe: (include numbe	er of individuals red	creating	, frequency of use	e, photo-c	documentation of evidence	of recreational uses, etc.)	
~								
	O	S*: (Mark all that	promote	e or impede recre	ational us	ses. Attach photos of evider	nce or unusual	
ter	ns of interest.)		1			1		
	☐ City/county parks	☐ Playgrounds	\square M	DC conservation	lands	☐ Urban areas	☐ Campgrounds	
	☐ Boating accesses	☐ State parks	☐ Na	ational forests		■ Nature trails	☐ Stairs/walkway	
	☐ No trespass sign	☐ Fence	☐ St	eep slopes		Other:		
r.,	idence of Human Use	·*•						
۷ ا	Roads		4	D1-/-1 (C		☐ I :	DX / ATX T1	
		☐ Foot paths/pri		☐ Dock/platfo		Livestock Watering	RV / ATV Tracks	
	Rope swings	☐ Camping Sites	S	☐ Fire pit/ring		☐ NPDES Discharge	☐ Fishing Tackle	
	Other: Clothing on ba	anks.						

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Data Sheet B - Site Characterization

Page Two – WBID #<u>1005-003</u>:

Stream Morph Upstream V		sical Din	nensions:						
· •	Width (ft): 3		Length (ft): 5.0)	Avg. Depth	(ft): 0.2		lax. Depth	(ft): 0.2
Run V	Vidth (ft):		Length (ft):		Avg. Depth			Iax. Depth (
☐ Pool V	Vidth (ft):		Length (ft):		Avg. Depth			Iax. Depth (
☐ Flow F	resent?	Yes [☐ No		Estimated (fi	³ /sec): < 1			
Downstream	n View Pl	nysical I	Dimensions:						
	Vidth (ft):	- K	Length (ft):		Avg. Depth ((ft):	M	Iax. Depth (ft)·
⊠ Run V	Vidth (ft): 1	.5	Length (ft): 5.0		Avg. Depth (lax. Depth (
☐ Pool V	Vidth (ft):		Length (ft):		Avg. Depth (lax. Depth (· · · · · · · · · · · · · · · · · · ·
⊠ Flow P	resent?	Yes [No		Estimated (ft		141	ax. Depui (11).
Substrate*: (T				50% S	and	% Silt	% N	/lud/Clay	10% Bedrock
Water Charac	teristics*:	(Mark of	that apple:						
Odor:		ewage	Musky	П	Chemical	⊠ None		Other:	
Color:	⊠c		Green		Gray	Milky		Other:	
Bottom Depos	sit: 🔲 Sl	ludge			ine sediments	None		Other:	
Surface Depos	sit: 🔲 O	il	Scum	□F	oam	None None		Other:	
Comments: Pleage concrete This information comprehensive undecision on the recurrence of the undersignates and the control of the undersignates are control of the undersignates and the control of the undersignates are control of the undersignates and the undersignates are control of the undersignates and the undersignates are control of the undersignates and the undersignates are control of the undersigna	is not to be userstanding of reation use a need, herely the and according to the second secon	used solely of water companysis but by affirm	across creek on for removal of a ronditions. Consequent may point to con to the best of	down recreating uently, ditions	onal use designathis information that need further mowledge, the	See pictures ation but rather a is not intended ar analysis or the at all inform	is to produce to direct at effect mation	ovide a more ctly influent another us	O2. The acce a see.
Signed:	he of	1 au	<i></i>	W.I.	Date:	@/16/ :Ev	05		
Organization:			FC		Position	: E	^5		



Photo ID 1005-003US: Upstream (Bear Creek)



Photo ID 1005-003DS: Downstream (Bear Creek)



Photo ID 1005-003O1: (Bear Creek)



Photo ID 1005-003O2: (Bear Creek)

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

-004		Site Location Description: Bear Creek at Road crossing in NE 1/4 Section 1, T48N, R13W; BID 12A - Boone County				
558369E; 43140311	N	Section 1, 148N, R13W; BID 12A - Boone County				
8:30 a.m.		Facility Name: See Table 2				
ey		Permit Number	: See Table 2			
ons: Cloudy - 60s		Weather Condi	tions for Past 7 days: Last ra	ain on May 22		
005-004US Dov	wnstream: 100	5-004DS Oth	er: 1005-004O1; 1005-004C	02; 1005-004O3		
		·				
es Observed*: Swimming Skin diving SC			☐ Tubing	☐ Water skiing		
☐ Kayaking	☐ Boa	ting	☐ Wading	Rafting		
☐ Trapping	☐ Fish	ning	☐ None of the above	Other:		
ı S*: (Mark all that	promote or imp	oede recreational	uses. Attach photos of evide	ence or unusual		
☐ Playgrounds	☐ MDC con	servation lands	☐ Urban areas			
	☐ National forests			☐ Campgrounds		
☐ State parks	Ivational	forests	Nature trails ■	☐ Campgrounds ☐ Stairs/walkway		
☐ State parks ☐ Fence	☐ Steep slop		☐ Nature trails ☐ Other:			
						
Fence	☐ Steep slop					
☐ Fence	Steep slop	pes	Other:	⊠ Stairs/walkway		
	8:30 a.m. ey ons: Cloudy - 60s 005-004US Dov Skin diving Kayaking Trapping er of individuals red S*: (Mark all that	8:30 a.m. ey ons: Cloudy - 60s 005-004US Downstream: 100 Skin diving SCU Kayaking Boa Trapping Fisher of individuals recreating, frequence s*: (Mark all that promote or imp	8:30 a.m. Permit Number Ons: Cloudy - 60s Weather Condi O5-004US Downstream: 1005-004DS Oth Skin diving SCUBA diving Rayaking Boating Trapping Fishing er of individuals recreating, frequency of use, photo	Facility Name: See Table 2 Permit Number: See Table 2 Permit Number: See Table 2 Permit Number: See Table 2 Weather Conditions for Past 7 days: Last rate Dos-004US Downstream: 1005-004DS Other: 1005-004O1; 1005-004O Skin diving SCUBA diving Tubing Wading Wading Wading Scupa See Table 2 Permit Number:		

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Data Sheet B - Site Characterization

Page Two – WBID #<u>1005-004</u>:

Stream Mor Upstream		vsical D	imensions:	•				
Riffle	Width (ft)		Length (ft):	8.0	Avg. Depth (ft)): 0.1	Max. Depth	(ft): 0.2
Run	Width (ft)	•	Length (ft):		Avg. Depth (ft)		Max. Depth	
☐ Pool	Width (ft)	:	Length (ft):	***	Avg. Depth (ft)		Max. Depth	
⊠ Flow	Present?	⊠ Yes	☐ No		Estimated (ft ³ /s			(-9).
Downstre	am View	Physica	l Dimensions:					
⊠ Riffle	Width (ft)		Length (ft):		Avg. Depth (ft)): 0.1	Max. Depth	(ft): 0.15
⊠ Run	Width (ft)	: 1.5	Length (ft):	3.0	Avg. Depth (ft)): 0.35	Max. Depth	
☐ Pool	Width (ft)	:	Length (ft):		Avg. Depth (ft)):	Max. Depth	
⊠ Flow	Present?	Yes	□ No		Estimated (ft ³ /s	sec): < 1		
	(These value Cobble		add up to 100%. % Gravel) 2% Sand	79.	% Silt	3% Mud/Clay	% Bedrock
Water Char	acteristic	s*: (Marl	all that apply.)					
Odor:		Sewage	☐ Musky	Che	mical [None	Other:	
Color:	\boxtimes	Clear	Green	☐ Gray	, [Milky	Other:	
Bottom De		Sludge	☐ Solids	☐ Fine	sediments [None	Other:	
Surface De	posit: 🗵	Oil	⊠ Scum	Foar	n [None	Other:	
*This information comprehensive addression on the a	on is not to understanding recreation uigned, he	nd Scum be used so ng of wate se analysi reby aff	in stagnant pa dely for removal or conditions. Con s but may point to irm to the bes	of a recreations as equently, this a conditions that	al use designati s information i at need further	on but rathe s not intend analysis or	erviews) to this are is to provide a model to directly influe that effect another unmation reporte	ore ence a use.
					Date:	6/10	6/05	
Signed:			BEC		Position	Eng	6/05	



Photo ID 1005-004US: Upstream (Bear Creek)



Photo ID 1005-004DS: Downstream (Bear Creek)



Photo ID 1005-004O1: Drain Pipe (Bear Creek)



Photo ID 1005-004O2: Bear Creek



Photo ID 1005-004O3: Drain Pipe (Bear Creek)

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 1005-	-005			Site Location Description: Bear Creek at road crossing in NW 1/4 Section 1, T48N, R13W; BID 15 - Boone County			
Site GPS Coordinates: 5	557343E; 43144791	7	Section 1,	148IN,	K13W; BID 13 - Boone Co	ounty	
Date & Time: 5/26/05 - 1	0:50 a.m.		Facility Na	Facility Name: See Table 2			
Personnel: Tim J. Fandre	ey		Permit Nu	mber: 3	See Table 2		
Current Weather Condition	ons: Partly cloudy	- 70s	Weather C	Conditio	ons for Past 7 days: Last ra	in on May 22	
Photo Ids: Upstream: 10	005-005US Dov	vnstream:	1005-005DS	Other:	1005-005O		
	1		<u> </u>				
Uses Observed*:	Τ	<u> </u>			Γ	T	
	☐ Skin diving		SCUBA diving		☐ Tubing	☐ Water skiing	
☐ Wind surfing	☐ Kayaking		Boating		□ Wading	Rafting	
Hunting	☐ Trapping		Fishing		☐ None of the above	Other:	
Surrounding Condition	s*: (Mark all that	promote o	or impede recreati	onal us	es. Attach photos of evider	nce or unusual	
tems of interest.)	Ι						
☐ City/county parks	☐ Playgrounds	☐ MD0	C conservation la	ınds	☐ Urban areas	Campgrounds	
☐ Boating accesses	☐ State parks	☐ Natio	onal forests		■ Nature trails	⊠ Stairs/walkway	
☐ No trespass sign	☐ Fence	☐ Stee	p slopes		Other:		
Evidence of Human Use	e*:						
⊠ Roads	☐ Foot paths/pri	nts [☐ Dock/platforn	n	☐ Livestock Watering	RV / ATV Tracks	
☐ Rope swings	☐ Camping Sites	s [Fire pit/ring		☐ NPDES Discharge	☐ Fishing Tackle	
Other:							

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Data Sheet B - Site Characterization

Page Two – WBID #<u>1005-005</u>:

tream Mor Unstream		vsical D	imensions:		•			
Riffle	Width (ft)		Length (ft):	A	vg. Depth	(ft):	Max. Depth (ft):
⊠ Run	Width (ft)	: 11	Length (ft): 2	· · · · · · · · · · · · · · · · · · ·	vg. Depth		Max. Depth (ft	·
☐ Pool	Width (ft)	:	Length (ft):		vg. Depth	· · · · · · · · · · · · · · · · · · ·	Max. Depth (ft	,
⊠ Flow	Present?	⊠ Yes	□No			t^3/sec): < 1	Man. Dopui (II	<i>)</i> .
Downstre	am View	Physica	l Dimensions:					
Riffle	Width (ft)		Length (ft):	A	vg. Depth	(ft):	Max. Depth (ft):
Run	Width (ft)	:	Length (ft):		vg. Depth	· · · · · · · · · · · · · · · · · · ·	Max. Depth (ft	
⊠ Pool	Width (ft)	: 14	Length (ft):		vg. Depth		Max. Depth (ft	·
⊠ Flow	Present?	Yes	□No			t^3/sec): < 1		
	(These val		add up to 100%.) % Gravel	% Sand		% Silt	% Mud/Clay	70% Bedrock
eter Char	cootoristic	s*• (Mort	all that apply.)					
Odor:	acter istic	Sewage	Musky	Chen	nical	None None	Other:	
Color:		Clear	Green	Gray		Milky	Other:	
Bottom De	eposit:	Sludge	Solids		sediments	None None	Other:	
Surface De	eposit:] Oil	☐ Scum	☐ Foam	1	None None	Other:	
This information on the cision on the	ion is not to understandi recreation u signed, he true and	be used so ing of wate ise analysi ereby aff accurate	olely for removal of or conditions. Cons s but may point to constitute the second firm to the best	f a recreationa sequently, this conditions that of my known	l use desigr informatio t need furth wledge, t	nation but rather on is not intende her analysis or the	rviews) to this for r is to provide a more d to directly influence hat effect another use mation reported	e a
igned:	<u> </u>	lu	g faul	5	_Date:	4/1 n: E15.	6 105	
rganization	! :		B	EC	Position	n: Ens.		



Photo ID 1005-005US: Upstream (Bear Creek)



Photo ID 1005-005DS: Downstream (Bear Creek)



Photo ID 1005-005O: Man dipping for minnows (Bear Creek)

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 1005	5-006		Site Location Description: Bear Creek at road crossing in S 1/2 Section 35, T49N, R13W; BID 16 - Boone County				
Site GPS Coordinates:	556206E; 4315326I	N	Section 33, 149N, R13W; BID 16 - Boone County				
Date & Time: 5/26/05 -	11:20 a.m.		Facility Name: See Table 2				
Personnel: Tim J. Fanda	rey		Permit Number	: See Table 2			
Current Weather Condit	ions: Partly cloudy	- 70s	Weather Condi	tions for Past 7 days: Last ra	nin on May 22		
Photo Ids: Upstream: 1	005-006US Dov	wnstream: 100	05-006DS Othe	er: 1005-006O			
Jses Observed*:			•				
Swimming	☐ Skin diving		UBA diving	☐ Tubing	☐ Water skiing		
☐ Wind surfing	☐ Kayaking	□ Воа	ating	□ Wading	Rafting		
Hunting	☐ Trapping	☐ Fisl	hing	None of the above	Other:		
- C	ns*: (Mark all that	promote or im	pede recreational	uses. Attach photos of evide	nce or unusual		
tems of interest.)	1	1		-			
tems of interest.) City/county parks	Playgrounds	☐ MDC coi	nservation lands	☐ Urban areas	☐ Campgrounds		
cems of interest.) City/county parks Boating accesses	☐ Playgrounds ☐ State parks	☐ MDC coi	nservation lands forests	☐ Urban areas ☑ Nature trails			
tems of interest.) City/county parks	Playgrounds	☐ MDC coi	nservation lands forests	☐ Urban areas	☐ Campgrounds		
cems of interest.) City/county parks Boating accesses No trespass sign	☐ Playgrounds ☐ State parks ☐ Fence	☐ MDC con ☐ National ☐ Steep slo	nservation lands forests pes	☐ Urban areas ☑ Nature trails	☐ Campgrounds ☑ Stairs/walkway		
ems of interest.) City/county parks Boating accesses No trespass sign Evidence of Human Us Roads	☐ Playgrounds ☐ State parks ☐ Fence Se*: ☐ Foot paths/pri	MDC con National Steep slo	nservation lands forests pes	☐ Urban areas ☐ Nature trails ☐ Other: ☐ Livestock Watering	☐ Campgrounds ☐ Stairs/walkway ☐ RV / ATV Tracks		
cems of interest.) City/county parks Boating accesses No trespass sign	☐ Playgrounds ☐ State parks ☐ Fence	MDC con National Steep slo	nservation lands forests pes	☐ Urban areas ☑ Nature trails ☐ Other:	☐ Campgrounds ☑ Stairs/walkway		

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Data Sheet B - Site Characterization

Page Two – WBID #<u>1005-006</u>:

Riffle	Width (ft)		Length (ft):	Av	g. Depth (ft	:):	Max. Dept	h (ft):	
Run	Width (ft)		Length (ft):	Av	g. Depth (ft	:):	Max. Dept	h (ft):	
⊠ Pool	Width (ft)	: 3.0	Length (ft): 2.0	Av	g. Depth (ft	t): 0.2	Max. Dept	h (ft): 0.25	
⊠ Flow	Present?	⊠ Yes	□No	Est	imated (ft ³ /	(sec): < 1			,
Downstre	am View	Physica	l Dimensions:						
Riffle	Width (ft)		Length (ft): 5.0) Av	g. Depth (ft	t): 0.1	Max. Dept	h (ft): 0.1	
Run	Width (ft)		Length (ft):	Av	g. Depth (ft	t):	Max. Dept	· `	
Pool	Width (ft)	•	Length (ft):		g. Depth (ft	·	Max. Dept		
⊠ Flow	Present?	⊠ Yes	□No		imated (ft ³ /	·		(-1).	
209	6 Cobble	209	% Gravel	60% Sand	***	% Silt	% Mud/Clay	, % E	Bedrock
	getation*:		ount of vegetation or a	algal growth a	at the assess				
quatic Veg Algae near	bank.	(note amo	ount of vegetation or a	algal growth a	at the assess				
quatic Veg Algae near	bank.	(note amo		algal growth a			Other:		
Algae near Algae rear Ater Char Odor: Color:	bank. cacteristic	(note amo s*: (Mark] Sewage] Clear	x all that apply.) ☐ Musky ☐ Green	☐ Chemi ☐ Gray	cal	sment site) None Milky	Other:		
Algae near Algae rear Ater Char Odor:	racteristic	(note amo	all that apply.) ☐ Musky	☐ Chemi ☐ Gray	cal	sment site)	<u></u>		
Algae near Algae near Algae near Odor: Color: Bottom De Surface De omments:	eposit: Please att	s*: (Mark] Sewage] Clear] Sludge] Oil ach addir be used so	all that apply.) Musky Green Solids	Chemi Gray Fine se Foam including i	cal ediments nformation use designation	Mone Milky None None None n from inte	Other: Other: Other: Other:	brown s form. more uence a	



Photo ID 1005-006US: Upstream (Bear Creek)



Photo ID 1005-006DS: Downstream (Bear Creek)



Photo ID 1005-006O: Pipe (Bear Creek)

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 1005	Site Location Description: Bear Creek at road crossing S 1/2 Section 34, T49N, R13W; BID 17 - Boone County						
Site GPS Coordinates:	554421E; 4315332N	N.	34, 149N, K13W, BID 17 - Boone County				
Date & Time: 5/26/05 -	11:50 a.m.		Facility Name: See Table 2				
Personnel: Tim J. Fandr	Permit Num	ber: S	See Table 2				
Current Weather Conditi	Weather Conditions for Past 7 days: Last rain on May 22						
Photo Ids: Upstream: 1	05-007DS	Other:					
	<u>'</u>						
Uses Observed*:						T	
	☐ Skin diving		UBA diving		☐ Tubing	☐ Water skiing	
☐ Wind surfing	☐ Kayaking	☐ Boa	ating		☐ Wading	☐ Rafting	
☐ Hunting	☐ Trapping	☐ Fisl	hing		None of the above	Other:	
Surrounding Condition	ns*: (Mark all that _l	promote or im	pede recreatio	onal use	es. Attach photos of evider	nce or unusual	
tems of interest.)		T				T	
☐ City/county parks	☐ Playgrounds	☐ MDC coi	nservation lan	ds	☐ Urban areas	☐ Campgrounds	
☐ Boating accesses	☐ State parks	☐ National	forests		☐ Nature trails	☐ Stairs/walkway	
☐ No trespass sign	Fence	⊠ Steep slo	pes		Other: Thick vegetation		
Evidence of Human Us	se*:						
□ Roads	☐ Foot paths/pri	nts 🔲 D	ock/platform		☐ Livestock Watering	□ RV / ATV Tracks	
☐ Rope swings	☐ Camping Sites	s F	ire pit/ring		☐ NPDES Discharge	☐ Fishing Tackle	
Other: Adjacent sedi	mentation basin (see	e photo 1005-0	007O).				

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Data Sheet B - Site Characterization

Page Two – WBID #<u>1005-007</u>:

⊠ Riffle	Width (ft):	2.0	Length (ft)	: 5.0	Avg. Depth	(ft): 0.15	Max. Depth (ft	t): 0.2	
Run	Width (ft):		Length (ft)	:	Avg. Depth	ı (ft):	Max. Depth (fi	t):	
☐ Pool	Width (ft):		Length (ft)	•	Avg. Depth	ı (ft):	Max. Depth (fi	t):	
⊠ Flow	Present?	⊠ Yes	☐ No		Estimated ((ft ³ /sec): < 1			
Downstre	am View l	Physica	l Dimensions	:					
Riffle	Width (ft):		Length (ft)		Avg. Depth	n (ft): 0.2	Max. Depth (fi	t): 0.25	5
Run	Width (ft):		Length (ft)	:	Avg. Depth	n (ft):	Max. Depth (fi	t):	
☐ Pool	Width (ft):		Length (ft)	:	Avg. Depth	n (ft):	Max. Depth (f	t):	*****
⊠ Flow	Present?	⊠ Yes	☐ No		Estimated ($(ft^3/sec): < 1$			
70%	6 Cobble setation*:	10	add up to 100% Gravel ount of vegetation	209	% Sand all growth at the ass	% Silt	% Mud/Clay		% Bedroc
70% uatic Veg Algae near	6 Cobble getation*: (bank.	10º (note amo	% Gravel ount of vegetation	209			% Mud/Clay		% Bedrock
70% uatic Veg Algae near	6 Cobble getation*: (bank.	10º (note amo	% Gravel	209 n or alga			% Mud/Clay		% Bedroc
70% uatic Veg Algae near ater Char	6 Cobble getation*: 6 bank. acteristics	10' (note amo	ount of vegetation	209 n or alga	al growth at the as	sessment site)			% Bedroc
Algae near ater Char Odor: Color: Bottom De	etation*: (bank.	note amo *: (Mark Sewage Clear Sludge	ount of vegetation all that apply.) Musky Green Solids	209 n or alga	Chemical Gray Fine sediments	sessment site) None Milky SNone	Other: Other: Other:		% Bedroc
Algae near ater Char Odor: Color: Bottom De Surface De	etation*: (bank.	note amo	ount of vegetation all that apply.) Musky Green Solids Scum	20%	Chemical Gray Fine sediments	sessment site) None Milky None None None	Other: Other: Other: Other:	orm.	% Bedroo
Algae near Algae near Algae near Odor: Color: Bottom De Surface De mments: hall fish. his informatinprehensive sision on the	etation*: detation*: d	(note amount of the content of the c	call that apply.) Musky Green Solids Scum tional comments blely for removaler conditions. Case but may point	n or alga	Chemical Gray Fine sediments Foam Cluding informate creational use designtly, this informations that need fur	None None Milky None None None nation from integration but rather ion is not intendent ther analysis or to	Other: Other: Other:	re ce a se.	



Photo ID 1005-007US: Upstream (Bear Creek)



Photo ID 1005-007DS: Downstream (Bear Creek)

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 1015-	008		Site Location Description: Bear Creek at mouth in NE 1/4 Section				
Site GPS Coordinates: 5	53845E; 4316113N	1	33, T49N, R13W - Boone County				
Date & Time: 6/27/05 - 6	p.m.		Facility Name: See Table 2				
Personnel: Alan J. Fandre	ey		Permit Numbe	r: See Table 2			
Current Weather Condition	ons: Clear - 90s		Weather Cond	itions for Past 7 days: Last ra	ain on June 13		
Photo Ids: Upstream: 10	05-008US Dow	nstream: -	Oth	er:			
	1						
Uses Observed*:				T_	T		
Swimming	☐ Skin diving	☐ SCI	UBA diving	☐ Tubing	☐ Water skiing		
☐ Wind surfing	☐ Kayaking	☐ Boa	nting	□ Wading	Rafting		
☐ Hunting	☐ Trapping	☐ Fish	ning	☑ None of the above	Other:		
Surrounding Conditions	S*: (Mark all that p	promote or imp	pede recreational	uses. Attach photos of evide	nce or unusual		
☐ City/county parks	Playgrounds	☐ MDC cor	nservation lands	☐ Urban areas	☐ Campgrounds		
☐ Boating accesses	☐ State parks	☐ National	forests	☐ Nature trails	☐ Stairs/walkway		
☑ No trespass sign	☐ Fence	☑ Steep slop	pes				
Evidence of Human Use	2*:						
Roads	☐ Foot paths/prin	nts 🗆 D	ock/platform	☐ Livestock Watering	RV / ATV Tracks		
☐ Rope swings	☐ Camping Sites	☐ Fi	re pit/ring	☐ NPDES Discharge	☐ Fishing Tackle		
Other:							
	<u></u>						

^{*}Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Data Sheet B - Site Characterization

Page Two – WBID #<u>1005-008</u>:

Stream Morph <u>Upstream V</u>	O.	al Dimensio	ns:						
	Vidth (ft):		gth (ft):	A	/g. Depth ((ft):	M	ax. Depth (ft):	
☐ Run V	Vidth (ft):	Leng	gth (ft):	A	Avg. Depth (ft):			ax. Depth (ft):	
⊠ Pool V	Vidth (ft): 10-	20 Leng	gth (ft): 80	A	g. Depth (ft): 1.5		ax. Depth (ft):	2.4
⊠ Flow P	resent?	Yes 🗌 No		*******		$\frac{1}{3}$ /sec): < 0.5			
Downstroom	n View Dhe	oisal Dissess			• • • • • • • • • • • • • • • • • • • •				
Downstrean ☐ Riffle V	view Pny Vidth (ft):					(0)			
			gth (ft):		g. Depth (-	ax. Depth (ft):	
	Vidth (ft):	Leng	gth (ft):	A	g. Depth ((ft):	M	ax. Depth (ft):	
☐ Pool V	Vidth (ft):	Leng	gth (ft):	A	g. Depth ((ft):	M	ax. Depth (ft):	
☐ Flow P	resent?	Yes No		Es	timated (ft	. ³ /sec):			
Su <u>bstrate</u> *: (T	hese values sl	nould add up to	100%.)						
	obble	% Gravel		% Sand	- 7 IB-1	% Silt	100% N	/Iud/Clay	% Bedrock
Water Charac			oply.) Musky	Chem	inal	None None		104	
Color:			Green	Gray	icai	Milky		Other:	
Bottom Depos			Solids		ediments	None None		Other:	
Surface Depo			Scum	Foam	Cuments	None None		Other:	
Comments: Ple Mrs. Shackelfor Creek. *This information comprehensive undecision on the recommendation of the comprehensity and the	is not to be us derstanding of creation use an	es that as a clessed solely for ref water conditionallysis but may	moval of a nos. Consequence of the consequence of t	iblings an recreational uently, this iditions that	d friends use design information	would wad ation but rath is not intender analysis or	le in the her is to prided to direct that effect	rovide a more ectly influence et another use.	<u>f Bear</u> a
datasheet is tru	ue and accu	irate.			.	/	19-105	_	
Signed:	va j	any	-	-	_Date:	n: En	, 0		
Organization:		BEC		,	Position	n: En	5-		



Photo ID 1005-008US: Upstream (Bear Creek)

2005 comments for Bear Creek, WBID 1015

8/18/2005	e-mail	Ken	Midkiff	1007 N. College Ave.	Columbia	МО	65203	573-881- 0553	Boone	Bear Cr	1015
8/18/2005	8/19/2005	Eleanor	Mitter	7 N. Garth Ct.	Columbia	МО	65202		Boone	Bear Cr.	1015
8/23/2005	8/24/2005	James	Fairchild	9603 E. Verner's Ford Rd	Columbia	МО	65201	NA	Boone	Bear Creek	1015
8/3/2005	8/9/2005	Lawrence	Lile	1304 Saint Christopher St	Columbia	МО	65203	N/A	Boone	Bear Creek	1015
6/3/2005	e-mail	Scott	Miniea	815 W. Prairieview Dr	Columbia	МО		N/A	Boone	Bear Creek	1015
8/24/2005	e-mail	William	Reeves, Ph.D.	238 West Glendale Rd	Webster Groves	МО	63119		Boone	Bear Creek	1015
8/19/2005	In-house	Priscilla	Stotts		LCSOB				Boone	Bear Creek	1015
8/24/2005	e-mail	Jessica	Suter	NA	NA	NA	NA	NA	Boone	Bear Creek	1015

Feels that UAAs submitted by Barr Eng. are flawed because they did not incorporate witness reports of use, and should not be used by the Rev. Comm.; Osage Grp. Sierra Club: Reports that the creek runs through a Columbia neighborhood and is part of the city's Greenbelt System. Reports City Councilman, Chris Janku and others have witnessed extensive "WBCR by children and adults."

Pools in creek are swimmable and people fish in stream.

Creek is over 3' deep in several locations including Bear Creek Trail Bridge on Hwy 763; several paths lead to deep holes; flows past low income housing projects

He swam in this creek as a child and families still swim in the creek.

Has observed children and adults playing in the creek. Also, doesn't think the information we have out is in an understandable format.

UAA 0208: determination made solely on depth, no water quality sampling, study of at least one year necessary

Recommend for SCR because Stream Team site in that segment

Swimming hole just ds from Bear Creek Trail bridge at eastern end of Big Bear Blvd. Has seen children swimming and wading there.